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# STD control in drug users and street youth

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**Objective:** To review the relation between drug use, sexual risk behaviour, and STDs including HIV in two marginalised populations—drug users and street youth.

**Methods:** A review of recent medical and behavioural literature focusing on illustrative examples from industrialised countries.

**Findings:** Injecting and other illicit drug users and street youth are both sexually active populations with a high rate of partner turnover and frequently exchange sex for money or drugs. Both STDs and HIV are prevalent among injecting and crack using individuals. Drug use may lead drug users to be less aware of or concerned about STD symptoms than others with STDs and thus increase the threshold for attending clinical services.

**Conclusions:** Given that STDs facilitate the transmission of HIV and that standard STD control programmes in general do not reach these populations, it is argued that drug users and street youth require targeted special outreach STD control programmes.

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## Introduction

Until the beginning of the 1980s, there was little interest in the role of drug use and drug users in the transmission of sexually transmitted diseases (STDs). However, the AIDS epidemic changed that and led to great interest in the sexual behaviour of drug users, mainly with regard to the potential for sexual transmission of HIV to heterosexual partners of drug users.<sup>1</sup> The increase of heterosexually acquired syphilis and other STDs in the United States in the second half of the 1980s, and its link to the use of crack cocaine, has led to additional interest in the role of drug users in the transmission of STDs.<sup>2</sup> This interest is well illustrated in the title of a paper published in 1988 in *JAMA*: "Sex tied to drugs = STD spread."<sup>3</sup>

The demonstration of the fact that the presence of STDs may facilitate the sexual transmission of HIV,<sup>4</sup> and the fact that both infections are prevalent among injecting drug users, has led to increased interest and studies on drug users' sexual behaviour and their role in the spread of STDs/HIV.

Another group with potentially increased risk for STDs and HIV/AIDS is street youth. In this paper, data on injecting drug use, sexual risk behaviour, and STDs/HIV in these two marginalised populations are reviewed and discussed.

## Drug use and sexual activity

Previously, there may have been a popular belief that people using heroin and tranquillisers were less sexually active than the general population. But two recent studies on sexual behaviour of drug users showed that the majority of drug users are sexually active and at least as active as the general adult population: more than 80% of the drug users had had sexual contacts in the previous 6-12 months.<sup>5,6</sup> In addition, the rate of partner change appeared to be high with sex in exchange for money or drugs occurring frequently.

Studies on drug use among sexual partners of injecting drug users have shown that over half of the sexual contacts of drug injectors are non-injectors themselves. Female injecting drug users are more likely to have private sexual partners who also inject, compared with male injecting drug users.<sup>5</sup>

The real prevalence of prostitution among drug users is difficult to estimate, as findings vary widely between study sites and study populations. In a study conducted in 1992-3 among injecting drug users in 12 European countries, the proportion of women who had had sex in the previous 6 months in exchange for money or drugs was 26%, but ranged from 2% in Ireland to 74% in the Netherlands (Amsterdam).<sup>7</sup> In Amsterdam this high proportion most certainly reflects the location of recruitment, at streets where both drug use and commercial sex work are prevalent. Another (ongoing) study among drug users in Amsterdam found that 83% of the female participants had a history of commercial sex work in the 5 years preceding intake and that 70% were currently commercial sex workers. But as, in this study, recruitment took place in a special STD clinic for commercial sex workers in addition to methadone posts, these estimates may also be biased.<sup>8</sup> In Baltimore 39% of female injecting drug users who participated in an HIV study, reported the trading of sex for money or drugs during the 10 years preceding the interview.<sup>9</sup>

During the 1980s in the USA, an epidemic of crack cocaine use occurred, particularly among blacks and Hispanics. In 1988, lifetime, past year, and past month crack use among these groups was at least twice as high as among whites.<sup>10</sup> The increase in the use of crack has resulted in an increase of commercial sex work in which sex was exchanged for drugs.

Looking at this relation in a different way—that is, the prevalence of injecting drug use among commercial sex workers instead of the

prevalence of commercial sex work among drug users, findings again vary widely between study sites and populations. It appears that the proportion of sex workers who inject drugs varies greatly, depending on country and type of worker. However, most studies report a much higher rate of drug use among women who work on the streets. In Spain a study conducted among approximately 1500 sex workers from various parts of the country showed that over half of those who worked on the streets injected drugs, while 10–22% of the women who operated from city or roadside bars and brothels were currently injecting drugs or had done so in the past.<sup>11</sup> In Glasgow, 59% of all the street commercial sex workers were drug injectors.<sup>12</sup> In Amsterdam more than 80% of the street commercial sex workers are injecting drug users.<sup>7</sup>

Although scarcely studied, commercial sex work also appears to be common among male drug users. A study among 449 male hard drug users in the Netherlands (Amsterdam and The Hague) found that 20% of the male drug users reported a history of commercial sex work and that 9.6% had commercial contacts in the 6 months preceding intake. Predictors for male commercial sex work among this group of drug users were young age, West German nationality, and a history of private homosexual contacts.<sup>13</sup>

A study among 235 male street commercial sex workers in Atlanta, USA, showed that 43% had a history of injecting drug use and 55% of crack use.<sup>14</sup>

### **Sexual risk behaviour and STDs among drug users**

Among injecting drug users, HIV is mainly transmitted via the sharing of needles and syringes. Sexual transmission of HIV may occur not only among injecting drug users themselves, but also from HIV infected injecting drug users to their sexual partners, who often are not injecting themselves. Studies (mainly cross sectional) have shown that self reported condom use is relatively higher with commercial partners compared with private steady partners. The frequency of condom use with non-commercial casual partners lies somewhere in between.<sup>5 15</sup> Although condom use with commercial sexual contacts is frequent, the high numbers of contacts may still result in a high number of unprotected sexual contacts.

Among drug users a history of STD appears to be common. Of course, self reported STD history must be interpreted with some caution. Nelson *et al* studied approximately 3000 injecting drug users in Baltimore of whom 60% reported a previous STD.<sup>16</sup> Ross *et al* studied drug users in Sydney and found that approximately 30% of the male and 50% of the female drug users reported a history of STD.<sup>17</sup> In San Francisco, Fullilove *et al* found that, among crack users, 41% reported past treatment for an STD.<sup>18</sup> In another US study, history of STDs among midwestern injecting drug users and users of crack cocaine was shown to vary according to ethnicity. A higher proportion of

black men and women, compared with white men and women, reported previous infection (54% and 65% *v* 29% and 56% respectively).<sup>19</sup> In an Amsterdam based study, approximately 45% of both injecting and non-injecting drug users reported prior treatment for an STD.<sup>6</sup> This last study also showed that STDs were common among both drug users with and without a history of commercial sex work.

Although some studies have found that injecting drug users have reduced their sexual risk behaviour especially with their commercial partners,<sup>15 20</sup> most studies have found that it is easier for injecting drug users to change injecting behaviour than sexual behaviour.<sup>5 15</sup> However, studies of long term trends in condom use are limited. In an open cohort study of Amsterdam drug using commercial sex workers, sexual behaviour was evaluated at intake and trends in sexual behaviour and STD incidence were monitored over time.<sup>21</sup> From 1986 to 1992, consistent condom use with clients in the 6 months preceding intake increased from 21% to 58% and the number of commercial contacts declined from 84 to 64 per month. Temporal trends within individual commercial sex workers from visit 1 to visit 8 showed a somewhat larger risk reduction than the cross sectional trends. From 1989 to 1992, the STD incidence declined from 61 to 40 episodes per 100 person years. HIV infected commercial sex workers reported more sexual risk behaviour at the beginning of the study, but showed a stronger risk reduction over time.

Among the participants of the cohort study in Amsterdam trends in sexual behaviour with private sexual partners were also studied. A large reduction in sexual risk behaviour with these partners was observed after stratification of trends by HIV serostatus. Both private partner change and inconsistent condom use decreased, especially among known HIV infected participants. One could argue that this self reported sexual risk reduction of HIV infected individuals was biased by a possible increase in socially desirable responses over time as participants may become more reluctant to admit the risk behaviour at subsequent visits. However, a large reduction in risk behaviour was still seen after adjusting for the number of study visits thereby partially adjusting for the effect of study participation.<sup>22</sup>

In the United States, the number of syphilis cases increased from 1985 through 1990 by more than 50%.<sup>23</sup> The increase was seen in both men and women, mainly in blacks and in low income areas (both urban and rural). This increase in syphilis has been attributed to several factors: increases in the use of crack cocaine, prostitution in which drugs are exchanged for sex, and limited access to and use of healthcare services.<sup>2</sup>

Incidence rates for early syphilis were studied in a 6 year prospective study among injecting drug users receiving methadone maintenance in the Bronx, New York.<sup>24</sup> Incidence rates (cases per 1000 person years) were 15.9 for HIV seroconverting patients, 8.9 for prevalent HIV seropositive patients, and 2.9 for persistently HIV seronegative patients. Independent risks

for early syphilis included multiple sexual partners, HIV seroconversion, paid sex, and young age. All HIV seroconverters with syphilis were female.

During the second half of the 1980s, increases in cases of chancroid and also gonorrhoea in some populations were observed in the United States. As with syphilis, there also appeared to be a similar relation between these STDs and the use of crack and the exchange of sex for money or drugs.<sup>25</sup>

In Brooklyn, New York, Dehovitz *et al*<sup>26</sup> studied STD prevalence and risk factors among 372 sexually active inner city women with no history of injecting drug use.<sup>27</sup> Thirty one per cent had used cocaine within the past year and cocaine was detected in 14% by urine screening. Their study documented that women who use crack cocaine are at substantially higher risk of contracting an STD than other women. Among US born women, 61% of crack and/or cocaine users had an STD compared with 34% of non-users (OR = 2.9, 95% CI 1.6–5.5). Recent crack cocaine use was the strongest predictor of syphilis infection (OR = 12.8, *p* = 0.019). In this study, crack cocaine use was a stronger predictor for the presence of syphilis and trichomoniasis than the number of sexual partners and condom use. For chlamydial infections, the use of both condoms and crack/cocaine was related to a lower risk compared with non-crack users. Apparently, *Chlamydia trachomatis* is circulating less among crack users. In this study, gonorrhoea prevalence was too low to be able to assess risk factors.

Another STD prevalent among crack users is heterosexually acquired HIV infection. Edlin and colleagues studied the relation between HIV infection and crack use.<sup>27</sup> Participants were young adults, 18 to 29 years of age, from inner city New York, Miami, and San Francisco. In these cities, both crack cocaine use and HIV infection are prevalent. Both female and male crack users reported more risky sexual behaviour and STDs than non-crack users. HIV prevalence among crack users was much higher than among non-crack users (15.7% *v* 5.2%). However, after controlling for sexual behaviour, the difference in HIV seroprevalence between the two groups was no longer observed.

A recent multicentre study on the HIV incidence among young urban street recruited crack cocaine smokers was reported at the AIDS conference in Vancouver.<sup>28</sup> An annual incidence of 4.3% was found as was a clear relation between HIV infection and the exchange of sex for money and drugs.

In Europe, no such strong increase in the use of crack or STDs has been observed. In most European countries the incidence of syphilis and gonorrhoea declined sharply, starting in the second half of the 1980s. This may be the main reason that HIV prevalence among non-injecting heterosexuals and commercial sex workers has remained low. Results from a multicentre study among commercial sex workers in nine European countries in 1990–1 showed that, among non-injecting women, HIV prevalence

was 1.5%.<sup>29</sup> Another European multicentre HIV seroprevalence study among STD patients in 17 countries showed prevalence ranging from 0 to 3.3%.<sup>30</sup> In the Amsterdam cohort study, 1.6% (3/182) of the non-injecting drug users without a history of homosexual contacts were infected with HIV at intake.

### STD control among drug users

It is my conviction that standard STD control programmes do not generally reach drug users. Drug use may lead drug users to be less aware of or concerned about STD symptoms than others with STDs and thus increase the threshold for attending clinical services. Drug users are therefore be more likely to have a high prevalence of asymptomatic STDs and be less likely to use standard STD clinical services. As a result, special programmes which work in close collaboration with drug services (for example, methadone programmes) are more likely to be successful in STD prevention and control.

This is well illustrated in Amsterdam, where one of the oldest special STD control programmes for drug using commercial sex workers exists.<sup>31 32</sup> In the second half of the 1970s, the number of reported cases of early infectious syphilis in Amsterdam increased considerably. In 1976, 307 cases were notified, and in 1978 this had doubled to 641. At that time, contact tracers at the STD clinics of the municipal health service identified two major groups at risk for acquiring syphilis—homosexual men and addicted commercial sex workers and their clients. The addicted commercial sex workers did not attend the STD clinic which operated during normal office hours.

A pilot study among this group of female commercial sex workers (conducted at streets where the women solicited clients) revealed nine cases of infectious syphilis in the 48 women examined. As a result of this finding, a regular STD clinic for drug using commercial sex workers was started and operated one evening per week. The evening time was chosen since most commercial sex workers work during the night and sleep during the standard opening hours of the clinics. Routine medical and laboratory examinations for STDs are conducted free of charge as is the provision of treatment. The drug department of the municipal health service also participates in this programme. Methadone is offered, especially when an STD has been diagnosed thereby enabling the commercial sex workers to stop working for a while. In addition, women and men who are known to work as commercial sex workers and who are registered on a methadone programme are urged by their doctors or social workers to attend this clinic regularly. If they do not, methadone may be withheld and given at this clinic only after examination for STD. In addition, special nurses walk around in the area where drug using commercial sex workers are soliciting their clients and discuss safe sex and the need for regular STD check ups (particularly with new women). Cards are handed out with instructions how to find this clinic.

Each year between 250–300 people attend

the clinic (80%-90% female) for a total of 600-800 consultations and over the years a strong decline in the number of STD diagnoses has been observed.<sup>33</sup>

This special clinic was started long before the beginning of the AIDS epidemic in the Netherlands. It soon became clear that injecting commercial sex workers would play an important role in both the transmission of STDs and the sexual transmission of HIV. This is not only because both HIV and other STDs are common, but also because the presence of STDs facilitates the transmission of HIV. It has also been shown recently that the treatment of STDs reduces HIV viral load in genital secretions and therefore it is likely to reduce infectivity for HIV.<sup>34 35</sup> A study of sexual behaviour and HIV seroprevalence conducted in this special clinic in 1986 and 1987 showed that, although the addicted commercial sex workers reported a high level of safer sexual practices, 81% had contracted one or more STDs during the 6 months preceding the interview and HIV testing. Antibody to HIV was found in 30% of the women, all but one of whom had been injecting drugs.<sup>36</sup>

This combination of high prevalence of HIV and STDs stresses the need for special STD and HIV control programmes for injecting (Europe) and crack using (United States) commercial sex workers.

We also found that HIV infected female drug using commercial sex workers experience an excess morbidity of STD and gynaecological disorders. They appear particularly at risk for genital herpes, genital warts, vaginal candidiasis<sup>37</sup> and as shown by others, severe human papilloma virus (HPV) induced cervical infections.<sup>38</sup> These findings also emphasise the need for accessible medical care for this group of women.

Other services directed at street commercial sex workers in the Netherlands (of whom the majority are drug users) are the "family room" projects. These "family rooms" are located in the area where the commercial sex workers work, are open the whole night, and offer a place where commercial sex workers can get refreshments and food, take a shower, and obtain condoms. The majority of these projects operate on a voluntary basis, often with charitable status. In some of these family rooms, a physician can be consulted a few times a week. However, expertise and financial resources to check for STDs are generally very limited.

Similar services also operate in the United Kingdom for street commercial sex workers. For example, in Manchester, a project called "Manchester Action on Street Health (MASH)" provides a harm reduction model for sexual health promotion/HIV prevention that offers free condoms, a needle and syringe exchange scheme, and general information and advice around safer sex and safer drug use. MASH operates in the red light area during the night.<sup>39</sup> Other European countries have also started special prevention projects directed towards commercial sex workers, including some programmes specifically targeting drug using commercial sex workers.<sup>40</sup> Medical care,

including active STD management as part of such a programme is usually lacking in these projects.

In addition to special outreach programmes in which STD control is included, physicians who deal with drug users, whether in family practice, drug dependency clinics, or hospitals, should keep in mind that drug users may be at increased risk for STDs. A sexual history, including questions on sex in exchange for money or drugs, should be part of the routine. As many drug users end up in custody facilities for some period in their life, it is also strongly recommended that, at the beginning of detention, STD examination be offered in addition to health education.<sup>41</sup>

### **Sexual risk behaviour and drug use among street youth**

Homeless adolescents living on the streets (street youths) also appear to be at increased risk for both STDs and HIV owing to a high prevalence of high risk sexual and drug use behaviour.<sup>42</sup> A 1988 study conducted in Canada showed that the majority (94%) of street youth aged 15 to 20 years were sexually active and had high rates of partner change and that 14% of them worked as commercial sex workers. A history of STD was reported by 22% and 12% reported injecting drug use.<sup>43</sup> Another Canadian study reported that 45% of the street youth had sexual contact with homosexual men and 43% with an injecting drug user.<sup>44</sup>

A study among street youth in the United States showed the following: alcohol was used by 80%, marijuana by 68%, cocaine by 48%, and crack by 38%; 6% injected drugs. Nearly all (91%) were sexually active, with an average of 2.8 sexual partners weekly (range 1-20). Twenty nine per cent had exchanged sex for food, money, shelter, or drugs.<sup>45</sup> Another study of an urban street youth population in the USA.<sup>46</sup> also showed that high risk sexual and drug use behaviours were prevalent and interrelated: 43% were engaged in "survival sex" and 40% were homosexual or bisexual. Of the youths with multiple sexual partners in the previous 30 days, 58% reported injecting drug use in this same period. A study conducted in Australia also showed more sexual activity and drug use among homeless youths compared with adolescents living at home.<sup>47</sup>

Street youth in Europe may also be at increased risk for STDs and HIV infection. In the Netherlands, 14% of the street youth studied worked in commercial sex work (mainly drug users). Only about 20% had ever visited an STD clinic.<sup>48 49</sup>

The findings of these studies underscore the urgent need for prevention and case finding programmes tailored to street youth.

### **Conclusion**

Drug users and street youth are sexually active. High rates of partner change and exchanging sex for money and drugs are common. Both STDs and HIV are prevalent among injecting

and crack using people. Drug users and drug using street youth may, therefore, play an important role not only in the spread of STDs but also of HIV, particularly given the fact that STDs facilitate the sexual transmission of HIV. These findings warrant special STD control programmes directed to these groups.

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